Many Voices Working for the Community

Oak Ridge Site Specific Advisory Board

June 14, 2001

Mr. Rod Nelson
Assistant Manager for Environmental Management
DOE ORO
P.O. Box 2001, EM-90
Oak Ridge, TN 37831

Comments on the "FY 2001 Remediation Effectiveness Report/CERCLA Five-Year Review" for the U.S. Department of Energy Oak Ridge Reservation, Oak Ridge, Tennessee, DOE/OR/01-1941&D1.

Dear Mr. Nelson:

At the April 11, 2001 Board meeting, the Oak Ridge Site Specific Advisory Board created an Ad Hoc Committee to review and draft comments on the subject report. The comments of this committee were reviewed and approved by the Board at its June 13, 2001 meeting. These comments are attached.

The Board thinks considerable progress has been made since the FY 2000 report and that many of the Board's comments were incorporated into the FY 2001 report. However, there is room for improvement in several areas, particularly, but not exclusively, regarding Long-Term Stewardship.

We appreciate the opportunity to comment on the document, and look forward to your written response. We also look forward to the fall Open House when stakeholders will have an opportunity to discuss their concerns with DOE and contractor personnel who worked on the document.

Sincerely,

Luther V. Gibson, Jr.

Luther V. Gibson, Jr.
Chair

Attachment

cc: Jason Darby, DOE/ORO
Pat Halsey, DOE/ORO
Connie Jones, EPA Region 4
John Owsley, TDEC

Comments and Recommendations

2001 Remediation Effectiveness Report/CERCLA Five-Year Review for the U.S. Department of Energy Oak Ridge Reservation, Oak Ridge, Tennessee DOE/OR/01-1941&D1

The 2001 Remediation Effectiveness Report / CERCLA Five-Year Review, document DOE/OR/01-1941&D1, is significantly more useful for stewardship planning than the 2000 RER, DOE/OR/01-1858&D1. It is apparent that many of the comments submitted by the Oak Ridge Site Specific Advisory Board were taken seriously. The primary differences are that highlights for each individual action have been expanded and the recommendation section contains considerably more detail than did the 2000 RER. Mr. Rod Nelson and his staff are to be commended for their action taken in response to the Oak Ridge Site Specific Advisory Board's comments on the 2000 RER.

However, there are significant problems that restrict its usefulness as a source to inform the public of remediation status. We expect these problems also reduce the usefulness of the report for the FFA parties. Most of the small problems and some of the general problems can easily be resolved.

The comments and recommendations are organized in three sections: general and specific comments on the 2001 report, a comparison of the 2000 SSAB comments to the 2001 report, and an evaluation of the Appendix A site visits. *Recommendations are found throughout and are italicized for your convenience*.

General and Specific Comments on the 2001 Report

General Comments:

- The SSAB believes that the Remediation Effectiveness Reports and the Five-Year Reviews are the most important and useful documents for current and future stakeholders and regulators. These documents provide an index to the status of CERCLA actions on the Reservation and those local sites that DOE-ORO is responsible for. As such, *we recommend that each Remediation Effectiveness Report and Five-Year Review include appendices that list:*
    - *completed actions,*
    - *actions that while completed require monitoring and maintenance,*
    - *ongoing projects, and*
    - *future projects.*

  For each entry, provide the titles of the supporting reports (e.g., those decision documents that describe how satisfactory completion is defined, those documents that

justify reduced scrutiny, and those that describe the rationale for monitoring plans and long-term stewardship). If a few words would explain why remediation is complete, please include them to close the loop on completed actions (e.g., "Tank 399 had radioactive supernate and sediment removed, and the radioactive residuals measured before grouting amounted to about 0.1 Ci."). Such information provides a future user of the land an indication of what lies below the grass.

In addition, for each entry, please provide the location of the supporting documentation.

- This 2001 report and the previous reports refer to dizzying panoplies of reference levels for toxic substances. Water quality standards, drinking water standards, action levels, FDA marketability standards for fish, and many others. Stakeholders will likely assume that observations are compared to the least conservative available standard whether or not it is appropriate. Readers will also not know whether the standard relates to acute or chronic exposures. This is a serious problem throughout the report. Since the EPA is an FFA party, *we recommend that EPA standards be used, and if others are more appropriate an explanation be given in a footnote*. Often, this will require that a consumption level of fish or turtle flesh is stated, and these should be standardized for the report, possibly on the basis of the consumption thresholds on warning signs. (We list under Detailed Comments some cases in which it appears an inappropriate standard has been chosen.)
- Since the SSAB review committee was unclear about the content of future Remediation Effectiveness Reports and the date of the next Five-Year Review, *we recommend that each document provide a statement upfront about the content of the current document, what to expect in the next year's document, and when to expect the next Five-Year Review.*
- Even a knowledgeable reader who knows many relevant acronyms will find these documents difficult to read. Furthermore, future stakeholders may not be as familiar with the Environmental Management Program and its acronyms as are the current stakeholders. Thus, while a list of acronyms is provided in each document, *we recommend that acronyms be spelled out when used the first time and subsequently when separated by many pages or sections from their first use*.
- Oak Ridge stakeholders have continually voiced their concerns about clearly marking and describing the locations of the DOE contaminated areas on and off the Reservation (see the 1998 and 1999 Stewardship Reports). This includes those areas where cleanup is complete and those areas in which there is residual contamination. Thus, *we recommend that the DOE, in cooperation with the State of Tennessee and the City of Oak Ridge, initiate development and implementation of a GIS system that identifies and locates by coordinates all of the DOE areas subject to CERCLA actions on and off the Reservation*. Furthermore, *we recommend that these areas be marked with stellae similar to those used by surveyors to identify property lines*.
- Over time, DOE and its contractor staff change and there is a resulting loss of "corporate memory" about conditions on the Reservation. In order to preserve some of the understanding and experience gained during the Five-Year Reviews, *we*

recommend a lesson learned summary be included in the next 5-year review report that addresses the following questions:

- *How are you applying the lessons learned from the first 5-year review to the annual remediation effectiveness reports?*
- *How will you apply your experience and lessons learned to the next 5-year review?*
- *Which of the items on Table 1.3, the Five-Year Review summary, present the most problems during a 5-year review and how can the table be revised to facilitate the review process?*

The Five-Year Review lessons learned summary should also include a list of site visits with brief observations, conclusions, and lessons learned for each site.

- Review of the questions asked on the 2001 RER 5-Year Review Site Visit/Site Manager Interview Form and the responses provided on the forms by the site visit teams often bore no relationship to one another. It appears that the 2001 form was designed by someone other than those persons charged with the responsibility for the site visits. While the structure of the form is satisfactory, it is lacking in clarity. *We recommend that future site visit teams be briefed on the intent and required/desired content of the form*.
- The SSAB believes that the Remediation Effectiveness Report/Five Year Review reports could be useful when establishing the Stewardship Management Archival/Retrieval Tool (SMART) web-based information system for long-term stewardship requirements at each remediated site. *We recommend coordination of the SMART initiative and the development of a GIS system with the Remediation Effectiveness and Five-Year Reviews*.
- The SSAB believes that information gathered during the Remediation Effectiveness and Five-Year Reviews must be factored into the development of the long-term stewardship life-cycle baselines. For example, items such as biological monitoring (see page A-29) and any other post-action monitoring and long-term stewardship requirements checked and described on the RER 5-Year Review Site Visit/Site Management Interview Forms provide the kind of information needed to develop accurate life-cycle baselines. *We recommend that these long-term requirements be given high priority during the Five-Year Review cycle and that the results of the reviews be provided to the people charged with preparation of life-cycle baselines*.

Specific Comments:

- *About Figures:*
  - Figure ES.1. To meet its goal, this figure must clearly indicate the major drainage paths. Many readers will be looking at black and white copies. The Clinch River below the Rt 58 bridge cannot be followed, a stub of Poplar Creek above the East Fork entry should be indicated, and Bear Creek is lost. Maybe some other waterways from the text could be indicated such as First Creek and some tributaries to Bear Creek.

- Figure 1.1. Clinch River/Poplar Creek Task 7.3 would be better placed at the confluence of the Clinch River and Poplar Creek, even though the task covers a broader area then that.
- Figures 1.1 and 2.1. Since many readers may have black and white report copies rather than reports with figures in color, it would be good to use different symbols for Completed CERCLA Actions versus CERCLA Actions in Progress.
- Figure 2.3. Identify dash lines.
- Figure 2.3. We suggest locating all monitoring wells on figures when possible, e.g., ORW-035 and 068 and UNW-066 and 067 on Figure 2.3 for example.

➢ *About Tables:*

- Table ES.1. A footnote could indicate that a list of CERCLA documents for these areas appears at the end.
- Table 1.1. The column that lists monitoring/stewardship requirements only mentions those that have been recognized explicitly. All units with residual contamination require some actions of documentation, information retention, and occasional surveillance at least until a more thorough stabilization is complete. A footnote could clarify this.
- Table 2.4. Explain "baseline".
- Table 2.7. second item under A: "Risk to human health not addressed due to return of fish to pond." Please explain this statement.
- Table 2.7. (Section 2.6.4.1). If there is no "significant impediment to access K-901-A from the Clinch River" while risk to human health is not be addressed Table 2.7 (thus inferring there is a possibility of risk to human health which is unknown), some kind of stewardship requirements seems proper.

➢ *About Pages and Sections:*

- Pg. 1-25, Par. 4 Does the statement "...decisions did not require monitoring" mean that the documents list no monitoring, or that there really is no role for any quantitative assessment once the project was completed. In a number of cases, the latter position might be difficult to defend.
- Bullets near bottom of pg. 1-25. The removal actions were justified because the risk driver was considered obvious. The DOE/EM should often find ways to quantify continued success.
- Pg. 2-7, Par 2. The DCG quantities are usually derived from a receptor dose limit, for example 1 milliSievert/year off site from an operating facility. The basis for a CERCLA action might be to achieve a lifetime cancer risk of 1 in 10,000 for a "civilian" industrial worker, likely a much tighter requirement. Does the reader know from what standard the limiting

concentration was derived? And why? This difficulty occurs elsewhere also.

- Pg. 2-12, Par. 2.2.2.2. To be sufficiently complete, the statement should indicate where it is documented that waste drums were all removed and any fugitive waste from leaky drums was cleaned up. A careful survey must have been done at that time, and should be referenced. Many of the statements about completed actions fail closure in a similar way.
- Pg. 3-26. Tank WC-14 will no longer be noted except in summary tables. That can be justified if residual contamination cannot become an industrial hazard after the tank corrodes away. If a low residual contamination was demonstrated, say it here. If not, we need a new step before tank grouting. This problem occurs for other similar cases.
- Pg. 7-17, line 1. Many points in the discussion refer to the RI/FS, and could not be understood without constant searching through that thick document. A much greater share of the points need to be made understandable without that burden.
- Pg. 7-53, par. under table. Mercury in fish flesh is assumed to be methylmercury unless otherwise shown. The ROD accepted that a pregnant woman should not eat fish from these areas. The EPA Reference Dose in this case is based on human data, so there is no huge safety factor as for inorganic mercury. How much fish with the sampled mercury concentration could a pregnant woman eat and not reach the RfD? Here and elsewhere the standards referred to often do not seem meaningful, and for mercury it may be important. (The fact that mercury is widespread from power plants only increases the importance of the large discharges from Y-12. Is mercury in the deep sediments from about 1960 truly removed from the riverine food chain?) The discussion needs much greater clarity.
- Pg. 7-54, par 3. Does the Figure 7.3 refer to risks estimated in the RI or is newer data included? Reference to the independent analysis in vol. 4 of the Oak Ridge Dose Reconstruction final report dated 1999 would be appropriate. Also, if beautiful figures like 7.3 were coded so they would be interpretable in black and white, such copies would be more useful.
- Pg. 7-64, par. 3. The Girls Club now occupies the former Jefferson tennis courts, and considerable fill was added. Robertsville Junior High is now Robertsville Middle School, with somewhat younger children. These land uses may not register as changed; the new data should be shown.
- Pg. 7-72. The region East of Gum Hollow Road is a Sportsman Club, and has been for half a century. People there are alive, though lightly exposed.
- Pg. 7-78. While technically correct, the figure does not suggest the land use change taking place at ED-1. (May be wrong sheet. Rt. 95 is hard to find.)

- Pg. 7-80. Par 7.4.4.5. In line 6, "sulfate" should read "sulfide." The paragraph implies that theoretical solubility was used to set the 400 ppm goal. Four groups chemically analyzed samples, and consistent results were never obtained. Ralph Turner digested soil samples in mock stomach acid in the key results. These mock bioavailabiliy studies were independent of the conflicting chemical analyses. Since samples yielded widely disparate results, the exact goal selection was difficult. (The samples were dirty, it seems.)
- Pg. 8-7 (Editorial Item), next-to-last paragraph**.** The "K90a-A holding pond" is perhaps the K901-A pond.
- Pg. 8-14, last paragraph. There was prior residential land use at the time of the RI, at least near Wiltshire Drive and along the portion of EFPC north of the Turnpike. The statement is wrong, but there are indeed new regions of residential use.
- Pg. 9-1. The bibliography should refer to the final reports of the Oak Ridge Dose Reconstruction Project in the volumes that are pertinent to current public exposures. This includes Volumes 2, 2A, 3, 4, 4A, 5, 6, and 7. The web address should be included, though copies are as available as CERCLA documents.
- Section 2.5.4.1. Where is the CNF?
- Section 4.7, 4.8, and 4.9 (under Goals of Decision): What are the extenuating circumstances which prevent action on this particularly bad actor being started?

Comparison of the June 8, 2000 SSAB Recommendations and Comments on the 2000 Remediation Effectiveness Report with the 2001 Remediation Effectiveness Report/Five-Year Review Report

- Comparison of the SSAB 2000 recommendations and comments to the 2001 Report showed some outstanding items that we believe must be addressed in future documents. Thus, *we continue to recommend that:*
  - *Remediation Effectiveness Reports and 5-year reviews be established as part of the Administrative Record,*
  - *Stewardship requirements be included in CERCLA Records of Decision and Action Memoranda, and*
  - *An appendix listing all remaining CERCLA remedial actions required for the ORR and their expected completion dates be included in the Remediation Effectiveness Reports and the Five-Year Reviews.*
- With regard to the specific comments on the 2000 Remediation Effectiveness Report, in some cases, it was apparent that our comments resulted in improvements in the 2001 document. In particular, the "not established" category for stewardship/monitoring

requirements in Table 1.1 was replaced with "to be determined in RARs and RmARs". While stakeholders have consistently asked that such information be provided in CERCLA decision documents, at least this provides future stakeholders with an idea of where to look for stewardship information.

- The Five-Year Review summary establishes in parts A and B (Table 1.3) that the basis for the review is the decision document. However, throughout Table 1.1, determination of long-term stewardship requirements is delayed to post - ROD documents (e.g. RARs and RmARs). Thus, remedial actions that depend on long-term stewardship cannot be effectively reviewed if the long-term stewardship requirements are unknown or unavailable to the reviewer. Over time, the lack of a clear understanding of remediation stewardship requirements will probably result in many of the same problems we now face on the Reservation, for example, lost records, lack of information about the characteristics of the waste and its disposal/remediation, uncertainty about the location of waste sites. *We recommend the stewardship requirements be an integral part of remediation planning and clearly described in CERCLA decision documents*.
- Other items not addressed in the 2001 report include the following:
  - We did not find any mention of organizational responsibility for stewardship functions nor was there any mention/commitment to stakeholders involvement in future 5-year reviews. (The SSAB also requested stakeholder involvement in 5-year reviews in its July 6, 2000 recommendation to DOE). *We recommend that a member of the public and local government be included in all 5-year reviews*.
  - With regard to the eight-comments on the contents of the various sections of the RERs, in some cases more complete information/data was provided and in other cases, it appeared that our comments were ignored.
  - For the last seven comments, some improvement was noted (e.g. mercury and total uranium fluxes at station 17, detection of Sr^{90} from well GW-205); some comments were ignored (e.g., elimination of sources of mercury and selenium in McCoy branch, study of the Union Valley plume to determine how to stop the sources of VOCs).
- After reviewing the June 2000 SSAB comments, we realize that some of the comments were not as useful as others; however, we feel strongly that DOE should respond to each comment. The DOE September 5, 2000, letter response to the June 2000 SSAB recommendations and comments was unsatisfactory. In the future, *we recommend that you respond to our CERCLA document recommendations and comments with the same level of consideration that you provide for NEPA documents*.

Appendix A Site Visits

Specific comments concerning Appendix A – Site Visits are as follows:

- A common error is not providing the correct answer. Boxes are often not checked, but notes are included which were derived from a box, which should have been checked. If post-actions are performed at a site, then why is the A.4.question concerning operating procedures always checked NA with the statement "There are

no operating procedures associated with the Removal Action." There have to be procedures to implement surveillance and maintenance. Perhaps this A.4. question means something else.

- *We recommend that instructions accompany questions on the interview form to ensure that the interviewer understands the context.* For instance, refer to Building 3001 Canal Removal Action. Question A.1. "Are Stewardship requirements specified in the Decision Document being met?" Answer is "All contamination has been fixed in place." This answer concerns the remedy not stewardship. Question A.5. "Were there any unexpected toxic by-products of the remedy not addressed by the decision documents?" Answer is "Treatment did not involve chemical remedy." Are chemicals the only toxic by-products? There are other numerous examples. Also- other questions on the interview form require identification of site specific records, documents and as-built drawings. Negative answers to some questions lead the reader to believe that the remedy was designed or documented on the back of an envelope and then discarded. How can a remedy such as Building 3001 Canal Removal Action not have as-built drawings?
- The principal steward always is responsible for monitoring and the retention of monitoring records; however, we have difficulty with the absence of a monitoring entry in the list entitled "Stewardship Requirements". Admittedly post action monitoring under 5-Year CERCLA reviews is intended to evaluate the effectiveness of actions, but monitoring is also necessary for a long time to ensure continuous appropriate actions to maintain human health. *We recommend that monitoring be included under stewardship requirements*. (see page A-29).

In summary, we recommend that:

- *The site visit form be redesigned for clarity and to include instructions for the site visit review team,*
- *Site visit review teams provide responses/notes that are self explanatory and understandable rather than short and cryptic, and*
- *DOE revisit all 2001 RER 5-Year Review Site Visit/Site Manager Interview Forms and correct the entries so that readers 30 years hence understand the actual conditions in 2001.*